

ABSTRACT OF THE DISCLOSURE

A demodulator of a differential detection system for a $\pi/4$ shifted QPSK or DQPSK modulation wave in digital communication. The demodulator includes a differential detector connected to receive orthogonal components of the modulation wave, a corrector connected to receive an output of the differential detector for correcting a deviated distribution of signal points on a constellation, and a slicer/decoder connected to receive an output of the corrector. The slicer/decoder decodes a received bit from the signal points after the deviated distribution is corrected. The corrector has average calculators connected to receive respective outputs of the differential detector, and subtractors connected to receive the associated outputs of the differential detector and also to receive associated outputs of the average calculators for subtracting an average value of the outputs of the differential detector from the outputs of the differential detector.